



DGG-003-010201

Seat No. _____

M. Sc. (Sem. II) (CBCS) Examination

May/June – 2015

C - 201 : Inorganic Chemistry

Faculty Code : 003

Subject Code : 010201

Time : 2½ Hours]

[Total Marks : 70

Instructions: (1) All Questions are compulsory
(2) All Questions carry equal Marks

Q.1 Answer the following (Any Seven)

[14]

- Discuss the NMR studies of η^2 - Alkene complexes
- Explain toxicity of As
- What is Anisotropic 'g' value in ESR
- Give importance of Fe in our body
- Give brief introduction of Ion exchange chromatography
- Explain basic principal of ESR
- Give some useful criteria for an element to be consider as an essential
- Draw the structure of hemoglobin
- Draw the structure of Ni (η^3 -C₃H₅)₂
- Give two examples of use of chelating ligands in the treatment of metal toxicity

Q.2 Answer the following (Any Two)

[14]

- Discuss the ESR spectrum of H-atom
- Give the classification of σ -bonded OMC of transition metals
- Write note on different types of Ion Exchangers

Q.3 Answer the following (Any Two) [14]

- a. Write note on 'g' value and factors affecting it
- b. Discuss the structure of Chlorophyll and explain Photosynthesis
- c. Discuss the experimental Technique of Ion exchange Chromatography for the separation of the following
 - (i) Zink and Magnesium
 - (ii) Chloride and Bromide

Q.4 Answer the following [14]

- a. Discuss the preparative for synthesis of π -bonded OMC of transition metals
- b. Discuss the ESR spectrum of CH_3^\bullet

Q.5 Answer the following [14]

- a. Discuss Hyperfine splitting in ESR
- b. Discuss the role of iodine in thyroid hormones

OR

Q.5 Answer the following [14]

- a. Discuss the transport and storage of protein
- b. Discuss the structure and bonding in η^2 - Alkene complexes